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A Comparison of the Social Skills Rating System and the Preschool and Kindergarten Behavior Scales

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A Comparison of the Social Skills Rating System
and the Preschool and Kindergarten Behavior Scales
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BY

Susan Hayner

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THESIS

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Abstract

The Preschool and Kindergarten Behavior Scales (PKBS) and the Social Skills Rating System (SSRS), Teacher Form, at the Preschool and Elementary Levels, are fairly new instruments that purport to evaluate children's prosocial abilities and deviant problem behavior. Little research exists comparing the two instruments. Both scales have been determined to be globally technically adequate. However, the research has been limited thus far. The purpose of the current research was to further investigate the relationship between the two scales. A sample of children ($n=136$) in west central Illinois public and private preschools were used to collect the data. Of these, 64 children in the 3:0-4:11 age range were used to compare the PKBS and the SSRS, Teacher Version, Preschool Form. Additionally, 72 children ages 5:0-6:11 were used to compare the PKBS and the SSRS, Teacher Form, Elementary Level. Convergent and divergent validity of the two scales were analyzed through a correlational investigation. Results indicated correlation coefficients between .50 and .83 for scales assessing similar constructs. Convergent and divergent validity were supported on a global scale for both the SSRS and the PKBS. There were some findings of specific interest. The SSRS consistently rated children with higher levels of problem behavior than did the PKBS. Additionally, the correlation coefficients were consistent across both forms of the SSRS. High positive correlations were found among many of the subscales that purport to measure the same construct. There were appropriate inverse relationships as well. This information is beneficial to educational professionals who are striving to use the most accurate and objective instruments in measuring a child's social skills.

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A Comparison of the Social Skills Rating System,
and the Preschool And Kindergarten Behavior Scales

Psychologists and educators are increasingly confronted with issues that involve children's social skills within educational settings. Research has indicated that children who possess social skills deficits are more likely to have difficulties with peer relations, a higher chance of dropping out of school, a higher incidence of criminal behavior and delinquency, and higher rates of adult psychopathology (Stuart, Gresham, & Elliott, 1991). There is an increased need for early detection of social skill deficits and intervention to prevent or ameliorate these potential outcomes. Social skills have been defined by McLean (1992) as "socially acceptable learned behaviors that enable a person to interact effectively with others and to avoid socially unacceptable responses" (p. 197). This definition encompasses a broad range of skills that are seen as necessary for children and adults to function appropriately in society.

Legislation (P.L. 99-457) has placed an increased focus on early identification and treatment for preschool and kindergarten children (Merrill, 1995b). This has resulted in a need to develop sound clinical instruments to evaluate the level of social skills in these children. Teachers have indicated that there are certain skills that children need to survive and thrive in the modern classroom. These skills form the basis for interacting with peers and teachers and gaining a level of independence, even at the preschool and kindergarten level. Some of the skills that teachers have identified as being the most important include following verbal instructions, controlling temper in conflict situations,

and ignoring peer distractions within the classroom setting. Some of the peer interaction skills that are deemed important include inviting peers to play, making positive self-statements, and praising others (Gresham, 1990). There has been increased research demonstrating that these skills can be taught at an early age and there are many reputable programs that are available to teach skills such as interacting in an appropriate way with other children and teachers, saying “please” and “thank you,” and to controlling their anger. Elliott and Gresham (1990) introduced a program that is designed to intervene based on the information obtained from the Social Skills Rating System (SSRS; Gresham & Elliott, 1990). This program aligns directly with the questions on the SSRS down to the simple tasks so the teacher knows the area of weakness for the child and can be given a starting point for intervention. Intervention and remediation of problems hinge on the ability of the professional to accurately identify them. It is essential that the instruments used to identify social skill difficulties are psychometrically sound and applicable within an educational setting. It is the goal of all practitioners to use an assessment device that would not only determine if there is a problem but also link the problem directly to interventions. Due to the specificity of the probes on social skills and problem behavior questionnaires, there exists an opportunity to connect the two. This is not always the case in academic assessment. Also, social skills interventions typically focus on positive goals and the use of nonaversive methods which increase treatment acceptability and integrity (Elliott, Racine, & Busse, 1995). Preschool children as young as two and three years of age are able to begin interacting on a more advanced social level. If they are lacking in

certain social skills (controlling temper, responding to teasing appropriately, etc.) they may be more likely to be rejected by their peers (Gresham, 1990). The high degree of correlation between social skill deficits and peer rejection may lead to poor adjustment within the classroom and with friends. An area that is crucial when assessing social skill deficits and problem behaviors is determining if he/she actually has the capability to perform the skill but does not perform the skill or if he/she does not have that skill in his/her repertoire. This is an important distinction because it helps determine the angle from which the intervention will come. Since intervention is the ultimate goal, it should be considered from the assessment phase. Gresham and Elliott (1984) define a performance deficit in terms that he/she has the skill in his/her repertoire but does not perform it at an acceptable level. This will often be reported as a lack of motivation or laziness. A child with an acquisition deficit either does not have the necessary social skill or is missing one of the crucial steps needed to perform it (Gresham & Elliott, 1984). Children with social skill acquisition deficits do not have the ability to interact appropriately with their peers because they lack requisite skills. One can determine if it is an acquisition deficit by assessing the child's knowledge or past performance of that skill. Has the child ever complimented a peer or has he/she ever paid attention and followed the teacher's directions? If he/she has, then he or she does not have a skill acquisition deficit in those areas but may have a performance deficit (Gresham & Elliott, 1984). A performance deficit is seemingly the most common area that social skill measures would address.

A performance deficit can be identified by measures that use Likert scales using a continuum of never to often. These are most useful when confirmed with direct observation or teacher interview. Other methods that are used to determine social skills problems and behavior difficulties include peer nominations or sociometric ratings, observations by parents, teachers, or psychologists, and possible self reports. Two instruments that are designated to measure social skills are the Social Skills Rating System (SSRS; Gresham & Elliott, 1990) and the Preschool and Kindergarten Behavior Scales (PKBS; Merrell, 1994). These instruments are relatively new and offer many similar features. Both utilize multirater options, assess similar domains (i.e., problem behaviors and social skills), and are used at the preschool level. These instruments are easily administered and can be completed by teachers or caregivers without formal training on the instrument itself. The SSRS and the PKBS both utilize ratings by teachers and parents or care givers. The SSRS also has child self-ratings for older children, which provides further information.

The Social Skills Rating System is a broad, multirater assessment tool which is used in the assessment of social behaviors that may affect peer acceptance, teacher relations, and academic performance (Gresham & Elliott, 1990). The SSRS may be used with children ranging from preschool through twelfth grade. There are three rater forms (teacher, parent, and child) and three age groupings (preschool, K-6 and 7-12). The child self report is only available from grades 3-12. The goal of the SSRS is to identify children who may be at risk for social behavior difficulties and/or poor academic

performance. It also purports to differentiate between mildly handicapped students and nonhandicapped students. The SSRS also claims an ability to categorize difficulties as either performance or acquisition deficits. Gresham & Elliott (1990) stated that the SSRS emphasizes prosocial skills and includes a brief assessment of potential problem behaviors and academic competence. Another unique aspect of the SSRS is the Importance Ratings which indicates the skill that the rater finds to be crucial for progress in the environment. The SSRS has potential to be a beneficial tool in assessing a child's social behavior.

The PKBS (Merrill, 1994) is a behavior-rating instrument that is designed to evaluate social skills and problem behavior patterns in preschool and kindergarten aged children. The age range is from 3-6 and was specifically designed to measure this population. This is a unique characteristic of the PKBS as very few assessment techniques at the preschool and kindergarten level were designed especially for that age. Most instruments are downward extensions of techniques for school age children and adolescents. The PKBS is a norm referenced, standardized instrument that can be used in a variety of settings and with a variety of informants. Appropriate settings for the use of the PKBS include day care facilities, preschools, Head Start programs, and pediatric/mental health clinics. The rationale behind the development of the PKBS included the indication that children, especially very young children, are one of the most neglected populations in the area of mental health services (Merrell, 1994). There are reportedly large proportions of at-risk and disabled children who have not received

services. It is the job of researchers and psychologists to understand this trend and develop ways to remediate that problem. Early detection of problems is a necessity. The PKBS is meant to be used as a multi axial battery for classifying children with behavioral problems and to serve as the basis for interventions to deter social skills deficits and/or problem behaviors (Watson, 1996). It is also a purported screening device for early detection of social/ emotional problems.

Teacher rating scales have long been an accepted form of information gathering due to the teacher's personal relationship with the child in structured environments. Teachers are able to observe behaviors that are necessary for adequate adaptation to both classroom and peer related situations. Typically there is extensive contact between children and settings, especially at the preschool and kindergarten level. Teachers are also often uniquely qualified to make ratings due to their observation of a wide range of children. There is a daily interaction with multiple social and classroom behaviors both positive and negative (Stuart et al., 1991). Teacher ratings are seen as less time consuming and more efficient than other forms of social skills assessment such as direct observations and peer nominations (Sabornie, 1993). This takes far less time than a practitioner going from class to class spending hours conducting observations. Teachers also take a more global view of the child's behavior and can often make ratings within 10 to 20 minutes. Research has also indicated that there are moderate correlations between teacher's ratings of a child's social skills and actual classroom observations (Elliott, Gresham, Freeman, & McCloskey, 1988). Teachers typically have a strong image of what

is accepted within peer groups and within the classroom so they enable a psychologist to get a more accurate picture of how the child compares to the norm. Additionally they may also be able to indicate how badly a child needs a social skills intervention (Sabornie, 1993).

In any social skill and problem behavior assessment, certain questions must be answered to ensure that it is a useful technique and provides information that can lead to possible intervention and remediation. In addition to establishing whether problems are a skill acquisition or performance deficits we should also see if the behavior occurs in multiple situations and look for possible antecedent events (Gresham, 1990). An evaluation should be completed to determine what the teacher sees as important skills to possess to succeed within the classroom and peer group situation. Some rating scales fully encompass many of these aspects. Their usefulness depends on the psychometric features and practicality of the instruments. If they continue to prove useful, we may have increased the chance of early detection and subsequent intervention for those children with social skill and behavioral problems.

The SSRS and PKBS purport to measure similar constructs. Research must continue to examine and determine evidential basis of validity. The SSRS and PKBS may differ in their ability to classify children with specific problem behaviors or social skill deficits. If one attempts to identify problems of children at early ages, it would be beneficial to use a tool that is appropriate for the suspected problem(s). Which instrument is better in identifying child behavior problems? How are the two instruments

related? Are the claims of convergent and divergent validity accurate? These are important questions to answer if one is attempting to be the most effective practitioner. Both instruments are relatively new and there is only one study comparing the two. It is important to have empirical evidence and replication to support the claims made by the authors of both the SSRS and the PKBS.

The current study focused on the relationship between the SSRS and the PKBS within the modern preschool and kindergarten classroom. The current study focused on the teacher rating scales primarily due to the age of the subjects and the situation in which data was collected. The present research addressed questions that are important if school psychologists are to use the SSRS and the PKBS in a practical manner. The first question is what are the levels of convergent and divergent validity between the two instruments? A second question focuses on the differences in scales between the age groups. The Preschool and Kindergarten Behavior Scale is used with children from ages 3-6. The Social Skills Rating System utilizes a different rating form for children 3-5 and 6-11. Do the claims of validity change when assessing a different age group? Answers to these questions will add to the literature base on the validity of these instruments

Review of Literature

The empirical literature has shown a somewhat limited yet steadily growing research base for both the PKBS and the SSRS. Both are relatively new instruments, published within the past eight years, and are part of a recent attempt to standardize social/emotional and behavioral data collection. Prior to these instruments, limited tools

were available to evaluate the social and behavioral characteristics of children.

The SSRS is a norm referenced multirater instrument that is designed to measure a child's social behaviors. The SSRS was standardized on a stratified sample of 4,170 children, 1,027 parents and 259 teachers. The children were mostly derived from public and private schools though there were some non-educational settings represented. Geographic region, gender, race, and community size were used to stratify the sample. There have been some criticisms due to the over representation of more highly educated parents, cities of 50,000 or more, and African Americans and the under representation of Hispanics and children from rural areas (McClean, 1992). The SSRS teacher form, preschool level (ages 3:0 - 4:11) consists of two domains. The Social Skills domain includes Cooperation, Assertion, and Self-Control. The Problem Behavior domain is assessed categorically through internalizing problems and externalizing problems. The SSRS, teacher form, elementary level (grades K-6) also consists of two domains, though scales are added to both. In this Social Skills version, a Responsibility subscale is added. There is also the of Hyperactivity subscale in the Problem Behavior Area. Another difference between the preschool and elementary versions is the addition of the Academic Competence domain. Though these three domains seem quite diverse they are often interrelated. A unique aspect of the SSRS is that it contains importance ratings for each item within the subtests measuring the estimated level of importance the teacher feels this skill has within the setting.

Reliability of the SSRS was estimated through internal consistency, test retest,

and interrater techniques. The internal consistency ratings ranged from .74 to .96 for the teacher form. Test-retest reliability on the teacher form ranged from .75 to .88 for social skills and .76 to .84 for problem behaviors with approximately four weeks between ratings. Interrater reliability investigations produced variable results due to the difference between forms and raters. Estimates of interrater reliability ranged from .16 to .25 at the preschool level, from .26 to .41 at the elementary level and from .10 to .34 at the secondary level. The authors of the SSRS did not expect high correlations in this area because teachers, parents, and students were expected to have different perceptions of the student's social skills (Gresham & Elliott, 1990). They also believed a confounding factor with the interrater reliability coefficients was the Responsibility domain that appears on the parent form but not on the teacher form. There was adequate evidence of content validity based on the importance ratings used within the instrument itself along with previous research in the area of children's social skill assessment. Gresham & Elliott also assessed criterion related validity with research comparing the SSRS to the Social Behavior Assessment (Stephens, 1978) yielding correlations of -.68 for the Social Skills domain, .55 for Problem Behavior and -.67 for Academic Competence. These were considered to be moderate correlations suggesting that they were measuring similar constructs. They also compared the SSRS to the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983). The SSRS and the CBCL externalizing scales correlated .75 while the internalizing scales correlated .59 within the Problem Behaviors domain. The scales correlated .81 for the total score of the Problem Behavior domain. The SSRS

is a practical instrument which takes approximately 15-20 minutes to complete and is fairly simple to score and interpret. The test produces standard scores and percentiles which aids in the interpretation of results.

Support for the SSRS is growing and the instrument is well known. Bramlett, Smith, and Edmonds (1994) used the SSRS to determine if it could differentiate between nonreferred, learning disabled, and mildly mentally retarded children. This study had teachers complete the SSRS across all three domains (Social Skills, Problem Behaviors and Academic Competence). The teacher that had the most contact with the student, (regular education teacher or the Special Education resource teacher) completed the ratings. A MANOVA showed that the groups differed as a whole and the nonreferred children scored significantly higher than both disability groups on social skills. The groups with disabilities did not differ significantly from each other. Bramlet et al.(1994) also compared parent ratings to teacher ratings for a cross-situational evaluation. Results varied depending on the statistical analysis done. Pearson correlation coefficients indicated a moderate inverse relationship between parent ratings of Problem Behaviors with teacher ratings of Social Skills ($r = -.51$), Academic Competence ($r = -.46$) and Problem Behaviors ($r = .42$). There was also a moderate relationship between a parent's rating of social skills and the teachers ratings of Academic Competence($r = .39$) and Social Skills ($r = .46$). However when Kappa (which represents the proportion of agreement between classification procedures on both the presence and absence of risk status) was used, the results produced a Kappa coefficient of .17, which is very low

agreement and was not significant. However, this study added to the literature that suggests that the SSRS is able to distinguish between broad categories of individuals. The authors believed that this is evidence to support the use of the SSRS as a device for early identification of social skill deficits and problem behavior. They suggested further research in the area of agreement between the SSRS and other methods of social skill assessment which may lead to additional information needed to develop an intervention. It was also suggested to continually supplement the SSRS with more direct forms teacher interview and observation.

A validity study involving the SSRS, Preschool Version, Teacher Form by Lyon, Albertus, Birkinbine, & Naibi (1996) started with the assumption that social skills and peer acceptance are related to long term outcomes and adjustments. There was also a belief that disabled students and nondisabled students differed in the skills that are seen by teachers as necessary for success. Previous measures have only identified whether there is a deficit or not, but did not focus on what skills are actually absent. In this study, teachers with a minimum of eight months experience with the students completed the SSRS to determine if the SSRS differentiated the skills of disabled and nondisabled preschoolers. They examined 49 children from two suburban school districts. A packet of information was sent to the teachers including the SSRS, a Vineland Adaptive Behavior Scale, and The Teacher Questionnaire. All three instruments are standardized measures. Results indicated that the average social skill scores of the disabled groups were exceeded by nearly 90 percent of the nondisabled group. The social skills of the

disabled group were significantly lower than the nondisabled group. There was also an inverse relationship between acquired social skills and problem behavior for very young children. This study adds support to past research that the SSRS can be used with the preschool children to identify groups with significant social and behavioral problems. It was found that the problems were pervasive across all domains rather than isolated skills, which seems to make it more important to determine these skill weaknesses at an early age. There was little or no success of the internalizing scale in differentiating between groups, though it was suggested that this could be due to the small number of items.

Stinnett, Oehler-Stinnett, and Stout (1989) also investigated whether the SSRS had the ability to differentiate between groups with different disability classifications. The classifications included behavior disorder, emotionally disturbed/severe emotional disturbance, nonhandicapped, and nonhandicapped children already referred for behavioral difficulties. The subjects included 70 children from a large southeastern metropolitan school system that was considered to be primarily low socioeconomic status. Students were predominantly African American. The students were rated by their classroom teacher (which later was discussed as a possible weakness due to the different classifications of teachers). Some were regular education teachers who rated the nonhandicapped and nonhandicapped referred groups where special education teachers rated only the behavior disordered and emotionally disturbed children. The teachers were not required to complete the importance ratings to increase the ease of administration. In hindsight, researchers wished they had importance ratings in order to

gain that valuable information. Results indicated that there were significantly more positive social skills in the nonhandicapped group than there was in the Behavior Disordered (BD), Emotionally Disturbed (ED) and nonhandicapped referred groups on the Academic Performance, Cooperation and Total score. The ED group also had significantly higher social skill ratings than the nonhandicapped referred in Academic Performance and Cooperation. Overall the SSRS was determined to have the capability to differentiate between groups of handicapped and nonhandicapped students. These researchers concluded that this study provided evidence supporting the use the SSRS-TF in a prescriptive manner as well for diagnostic purposes.

Maag, Vasa, Reid, and Torrey (1995) assessed the popularity of children in the fifth and sixth grades using the Coie, Dodge, and Coppotelli (1982) peer nomination method. The basis of this study was that peer relationships have been shown to be a prominent determinant in the development of prosocial behavior. They wanted to know how accurately ratings on the SSRS and variables such as gender, SES, and handicapping condition could classify these children as popular, rejected, or average. This study included eight students that were receiving free or reduced lunch (their measure of SES) as part of the 143-subject sample. Results of this study indicated that the combination of the SSRS-TF and the defined demographic variables could discriminate between the popular and rejected children. Popular, rejected and the average students differed significantly in the Self Control domain where average and rejected students differed on internalization, self control, and handicapping condition. The Self-Control subscale was

the only unique variable that differed slightly across all three groups. Stuart, Gresham, & Elliott (1991) conducted another study using the Coie, Dodge, & Coppotelli (1982) sociometric classification system and the SSRS. They contrasted social competence differences between popular and rejected students. There were 25 rejected and 24 popular children in grade kindergarten through six. The children first participated in the sociometric classification techniques and then were rated by their teachers on the SSRS-TF. Teachers were not informed of the child's previous sociometric rating. They also examined the variables of gender and age level. They performed a MANOVA, which produced results that indicated that gender does not interact with sociometric status to produce differential effects on teacher ratings of social skills and problem behavior. This study indicated that the SSRS could differentiate popular and rejected children on the basis of teacher ratings of social skills and problem behaviors.

The PKBS is a norm-referenced behavior rating scale designed to measure a child's social skills and problem behavior patterns. The PKBS is comprised of a Social Skills scale, which includes 34 items that are rated on a four point likert scale and are designed to assess peer and adult related forms of social adjustment. This scale consists of Social Cooperation, Social Interaction, and Social Independence subscales. The Problem Behavior scale is designed to reflect both internalizing and externalizing forms of problem behavior (Merrell, 1994). The Problem Behavior domain is assessed through the Self-Centered/Explosive, Attention Problems/Overactive, Antisocial/Aggressive, Social Withdrawal and Anxiety/Somatic Problems subscales.

The PKBS was standardized on a sample that included 2,855 children from 16 states and four geographical regions across the United States. Stratification variables included sex, ethnic status, and parental occupation. However, there were findings that indicated the three year old range was underrepresented when compared to four, five, and six year olds in the sample. Ethnicity very closely matched the 1990 census though there was an underrepresentation of children whose parents were unemployed. The sample included children having or being referred for a developmental disability or delay (11%) which matches the national population estimates within the preschool and kindergarten category (Watson, 1996). Merrell (1994) assessed the psychometric standards of the PKBS through various forms of reliability and validity. Internal consistency ranged from .81-.97 for the subscales and from .94 to .97 for the total scores. These are considered to be strong estimates of internal consistency. The internal consistency estimates for the subscales are lower due to the fewer number of items. Merrell also provided standard errors of measurement based on internal consistency estimates. Test-retest reliability was assessed using a three-week and three-month retest intervals. The correlations were all within the moderate to high range. Merrell (1994) found that within the preschool sample, behaviors relating to social competence might be less stable over time than problem behaviors. Interrater reliability coefficients fluctuated between .36 and .61 for Social Skills and .42 to .63 for Problem Behaviors. This may be due to cross rater variance that may include situational differences and overall time spent with the child. Validity was measured via content, construct, and criterion related validity. There

was substantial evidence to indicate content validity (Merrell, 1994). According to Merrell (1994), no items in the Social Skills Scale correlated at less than .31 with the total score and no less than .33 with their respective scales. On the Problem Behavior Scale, items correlated no less than .38 with the scale total score and no less than .35 with their related area score and .48 with the related subscale score. Construct validity of the PKBS was demonstrated showing intercorrelations of .58-.76 for Social Skills and total scores of .84 to .89. Problem behavior intercorrelations ranged from .46 to .80. Factor analysis was completed to derive the factor structure of the subscales supporting the components of the scale. Criterion related validity showed strong relationship between scores and the classification of special education status (Merrell, 1994). Someone that has at least three months experience with the child completes the PKBS. It takes eight to twelve minutes to complete. The raw scores are converted into percentile ranks, standard scores, and functional levels.

Two reviews in the Mental Measurements Yearbook were recently published indicating an interest in this PKBS. MacPhee (1996) indicated some ambiguity within the standardization sample. He indicated that it is not possible to distinguish which teachers rated the children and how many children each teacher rated. One teacher could have rated 20 children where another may have rated one. He believed the PKBS is most similar to the SSRS, though the PKBS has more peer related items and the SSRS has a more extensive problem behavior assessment. Watson (1996) reported adequate psychometric standards and stability over time. He believed that this was a sound

screening device though not as strong when attempting to identify appropriate interventions. The PKBS is a newer instrument and at the present time only two studies are available in the empirical literature.

Merrell (1995a) discussed the relationships among early childhood behavior rating scales attempting to establish convergent and discriminant construct validity of the PKBS. There were four examinations within this article in which the PKBS was compared to four different scales for use with the preschool and kindergarten children. Those measures included the SSRS, the Conners Teacher Rating Scale (CTRS), the Mattson Evaluation of Social Skills with Youngsters (MESSY), and the School Social Behavior Scales (SSBS). The SSRS and the PKBS were examined with 86 children between the age of 3-5 who were rated by their parents for possible developmental delays. Correlations ranged from .32 to .76, with a median of .61, in the social skill area and from .25 to .83, with a median of .62, in the problem behavior area. The MESSY and the PKBS were examined with teacher ratings of 116 developmentally delayed children in the Western United States. The teachers chose the children at random from their class roster (choosing the first, middle, or last three children on the list). Correlations between the MESSY and the PKBS social skills ranged from .62-.85, with a median of .78, and correlations were weaker for problem behaviors, ranging from .22-.72 with a median of .51. The PKBS was also correlated significantly with the CTRS using 46 kindergarten students from a regular education classroom. The PKBS and the SSBS study was conducted with 47 kindergartners and correlated .68 for social skills and .82 for total

score. There were fairly strong correlations between all the measures indicating substantial evidence for construct (convergent) validity. Convergent construct validity was indicated by the relationship between the PKBS social skills the SSRS, MESSY and the SSBS. Divergent validity was indicated by the negative relationships between PKBS social skill scores and the problem behavior scores from other measures. This study provided support for the PKBS as a measure of social skills and problem behaviors within the preschool and kindergarten range. Merrell (1995b) investigated the PKBS link between social skills and internalizing disorders. Merrell attempted to determine the important behavioral characteristics of preschool children who might be at risk for developing an internalizing disorder. There has been extensive research to support the connection between externalizing disorders and social skills. Internalizing disorders are more difficult to connect due to the nature of the problems and the young age of the students. The limitations of this age that interfere include the preliteracy of the students and the lack of emotional and behavioral maturity. Very young children cannot complete self-report methods adequately and professionals must rely heavily on third party raters. Merrell (1995b) examined teacher ratings on the PKBS and the Conners Teacher's Rating Scale (CTRS) for 45 randomly selected kindergarten children in a regular urban school and parental ratings from the PKBS and the SSRS for 86 3-5 year old children in the same district. Results indicated a moderate negative correlation between social skills and internalizing problems PKBS. The negative relationships between social skills and internalizing problems were stronger for the two PKBS scales

than they were on the other instruments.

The growing body of literature has shown increasing support for the use of the SSRS and the PKBS. It seems obvious that the need for a social skills and problem behavior detection devices has provided the initiative to design such measures. It is always important to continually and independently examine instruments to ensure their usefulness and adequacy. The primary research questions are as follows:

1. Does the relationship of the convergent and divergent validity questions between the PKBS and the SSRS replicate previous findings? Are there positive correlations between the SSRS Social Skills Scales and the PKBS Social Skills Scales? Additionally, are there strong inverse relationships between the Problem Behavior Scales and the Social Skills ratings? It would be expected that there would be a low correlation between Internalizing and Externalizing Scales in both instruments. Moreover, is there an inverse relationship between the SSRS subscale of Attention Problems and Cooperation? Also, is there a higher correlation between appropriate social skill ratings and Externalizing Scales or Internalizing Scales? All of these questions were addressed in the present research.

2. Are similar findings obtained between PKBS and SSRS for the SSRS Preschool Form and Elementary Form?

Chapter II

Method

Participants:

Participants in this research were randomly selected preschool and kindergarten children from the metro-east area of Belleville, Illinois. The classroom teacher coded the data in a numeric fashion to ensure anonymity. No personally identifying information was collected. Head Start, early childhood centers, private preschools, and kindergartens were contacted for participation in the study. A presentation was made to individual school buildings to explain the current research being done and the rationale behind it. Private school teachers were contacted individually. All teachers that were contacted agreed to participate in the study, and there was a 100% return rate. Teachers were offered a chance to win a 50-dollar gift certificate at a local restaurant. Thirty-seven teachers rated the 136 children chosen for the study. The children were split into two groups, ages 3 through 4 and 5 through 6. There were 62 children in the 3-4 sample. Fifty-three percent of these children were male and 46% were female. Of the 62, 20 were three and 42 were four. Seventy-one percent of the children were Caucasian, 22% were Black/African American, and 6% were Asian American. There were 74 students in the 5-6 group. Forty-seven percent of these students were male and 53% were female. Of the 74, 53 students were 5 and 21 were 6. Eighty-one percent were Caucasian and 19% were Black/African American.

Instruments:

The SSRS is a norm referenced multirater instrument that measures a child's social behaviors. The instrument is designed for children from preschool through grade 12. The SSRS assesses three domains including Social Skills, Problem Behavior, and Academic Competence. The SSRS purports to identify children that are at risk for social behavior difficulties and poor academic performance. It is also stated that the SSRS is able to categorize the difficulties as either acquisition or performance deficits. The tool can be used as either a screening or classification device. Reliability of the SSRS is supported through internal consistency coefficients of .94 for the Total Social Skills score (Stuart, Gresham, & Elliott, 1991). The Problem Behavior Scale is also internally consistent at .88. Stuart et al. (1991) also stated that a four-week stability coefficient ranged from .75 to .88. The SSRS has been subjected to numerous validation studies and has been shown to be a reliable and valid instrument.

The PKBS is a behavior-rating instrument that is used to evaluate social skills and problem behavior patterns in preschool and kindergarten aged children (ages 3-6). It is norm referenced and can be completed by a variety of informants. The PKBS was developed as both a screening device and as part of a multiaxial classification battery for identifying children with social skill and behavioral problems. The PKBS consists of a Social Skills Scale and a Problem Behavior Scale. The instrument is relatively new and was uniquely designed for the specific age range rather than a downward extension of an instrument from another age group. According to Merrell (1995), the PKBS has

excellent psychometric qualities. The internal consistency reliability estimates for the Social Skill Scale and the Problem Behaviors Scale measured at .96 and .97 respectively. Test-retest reliability estimates were .69 and .78 respectively. These coefficients indicate a high degree of stability.

Procedure:

Teachers in the described settings were asked to rate four children (2 male, 2 female) within their class on both scales. The children were chosen in numerical fashion using the first and last two male and female children on the class roster. Teachers were given SSRS-Teacher Form and PKBS rating forms in counterbalanced order. The age of the children in their class determined the particular version of the SSRS they were given. A cover letter was included outlining the purpose and necessity of the research and the possible information that this could provide. In February, a presentation was made on the specific information needed for the research and the rationale behind it. Data were collected from the beginning of March until the end of April, giving the teachers ample opportunity to observe children and meet the specifications of the PKBS. Teachers were given three weeks to perform ratings and the researcher personally collected the completed rating scales and all demographic information including race and gender.

Data Analysis

Convergent validity of the SSRS preschool and elementary forms and the PKBS was analyzed using Pearson product-moment correlation coefficients. Pearson product-

moment correlations were also used to compare subscale raw scores and total raw scores. The use of raw score comparisons was necessary due to the lack of standard scores on individual subscales. Thus, comparisons were made at the raw score level. Two-tailed dependent t -tests were used to determine the significance of differences of the Global scores. Mean differences between the T Scores were analyzed with dependent t -tests. Data were analyzed in three separate ways. Pearson product-moment correlations between SSRS and PKBS standard scores for the Global Social Skills and Problem Behavior Dimensions of the total sample were calculated. Additionally, t -tests for differences between means for Global Social Skills and Problem Behavior dimensions of the total sample were calculated. Also, Pearson product-moment correlations between the SSRS and PKBS subtest raw scores of the total sample were calculated. Effect strengths of t -tests were estimated using eta squared, an index of the proportion of variability accounted for by the effect. The same analyses were completed for the Pre-K and Elementary samples separately. The PKBS Social Skills Total and Problem Behavior Total were converted to a Standard Score based on a mean of 100 and a $SD=15$ using normative data provided by Dr. Kenneth Merrill.

Chapter III

Results

The correlational comparison of the PKBS and the SSRS, Preschool and Elementary Versions, provided some interesting insight into the relationship between the two instruments. Table 1 provides correlation coefficients for the Total Sample SSRS/PKBS data. Table 2 provides comparisons for the Preschool sample SSRS and PKBS correlational data. Finally, Table 3 provides correlational information for the Elementary sample SSRS and PKBS sample. These tables yield information that suggests a strong convergent validity between the two instruments. The correlation coefficients ranged from highly negative inverse relationships to strong positive relationships.

Total Sample

The total sample was analyzed using Pearson product-moment correlations for the PKBS Social Skills Total, PKBS Problem Behavior Total, SSRS Social Skills Totals, and the SSRS Problem Behavior Total standard scores. Evidence of convergent validity was supported, as there were highly positive correlations between the standard scores of both the Social Skills Scales and Problem Behavior Scales. The PKBS and SSRS Social Skills standard scores correlated at $r = .77, p < .001$. Additionally, the PKBS and SSRS Problem Behavior Scales correlated at $r = .65, p < .001$. Both correlations are significant and add to the support of convergent validity between the two instruments. However, there was one specific t -test that yielded interest. The SSRS yielded significantly higher ratings of Problem Behavior than provided by the PKBS. Dependent t -tests for

differences between means of the Total Sample indicated that ratings were higher on the SSRS Social Skills ($M=102.25$, $SD=18.522$) than the PKBS Social Skills scale ($M=100.91$, $SD=18.458$), $t(135) = -1.24$, $p < .001$. Although significant, the effect strength ($\eta^2=.01$) indicated that this difference was not meaningful. Comparison of the PKBS and SSRS of Problem Behavior ratings also indicated a significant difference between the two instruments. Dependent t -tests for the Problem Behavior Scales produced significantly higher ratings of problem behavior on the SSRS ($M = 97.08$, $SD = 15.56$) than the PKBS ($M = 90.57$, $SD = 15.90$), $t(135) = -5.65$, $p < .001$. This effect also produced a meaningful effect strength ($\eta^2= .19$).

The Pearson product moment correlations between the Problem Behavior Scales and the Social Skills Scales yielded the expected inverse relationship, providing evidence of divergent validity to the two instruments. The SSRS Social Skill scale correlated $r = -.62$, $p < .001$ with the PKBS Problem Behavior Scale. This relationship is statistically significant and indicates a high degree of divergent validity between the two scales. The SSRS Problem Behavior Scale was also inversely correlated ($r = -.51$, $p < .001$) with the PKBS Social Skill Scale.

Many scales on the PKBS and SSRS are theoretically similar and would be expected to produce moderately to highly positive correlations. The subscale raw score comparisons offered similar moderate to high positive correlations. The Social Skills Total Raw Scores on the PKBS and the SSRS correlated $r = .89$, $p < .001$. This suggests a highly significant level of convergent validity. The SSRS Cooperation scale correlated

with the PKBS Social Cooperation scale at $r = .87, p < .001$. Additionally, the SSRS Assertion subscale is theoretically similar to the PKBS Social Independence subtest and were highly correlated $r = .73, p < .001$. The SSRS Self-Control subscale correlated with the PKBS Social Interaction subscale, $r = .64, p < .001$, which also offered evidence of convergent validity. All social skill scales on the PKBS and SSRS were highly positively correlated. The SSRS Assertion subscale correlated with the PKBS Social Interaction subscale, $r = .81, p < .001$. The SSRS Self-Control scale correlated with the PKBS Social Interaction subscale at $r = .83, p < .001$ and with the PKBS Social Interaction Scale at $r = .75, p < .001$.

The Problem Behavior Total Raw Scores for the SSRS and PKBS also produced high positive correlation coefficients. The two scales were highly correlated $r = .80, p < .001$ and provided evidence of convergent validity for the problem behavior domains. The SSRS Externalizing Scale correlated positively with the PKBS Self-Centered/Explosive subscale $r = .82, p < .001$, the PKBS Attention/Overactive subscale, $r = .74, p < .001$, and the PKBS Antisocial/Aggressive subscale, $r = .79, p < .001$. Overall, the Externalizing Scales correlate $r = .81, p < .001$. The Internalizing Scales were also highly correlated at $r = .74, p < .001$, producing evidence of convergent validity between the Internalizing dimensions of the two scales. The SSRS Internalizing Scale correlates with the PKBS subscales of Social Withdrawal subscale at $r = .70, p < .001$ and the PKBS Anxiety/Somatic subscale $r = .70, p < .001$.

The scales that are theoretically different, and in which low or negative

correlations should exist, provide evidence of divergent validity. The SSRS Social Skills Total was negatively correlated with the PKBS Problem Behavior Total $r = -.76, p < .001$. This is a high inverse relationship providing evidence that the two scales are measuring different characteristics. Additionally, the PKBS Social Skills Total was negatively correlated with the SSRS Problem Behavior Total $r = -.58, p < .001$. There were negative relationships between the SSRS Externalizing Problem Behavior Scales and the PKBS Social Cooperation ($r = -.76, p < .001$), Social Interaction ($r = -.53, p < .001$) and Social Independence ($r = -.43, p < .001$). There were also inverse relationships between the SSRS Internalizing Scale and the PKBS Social Cooperation ($r = -.31, p < .001$), Social Interaction ($r = -.45, p < .001$) and Social Independence ($r = -.44, p < .001$). The two subscales purport to measure different etiologies of behavior, yet the PKBS Internalizing scales correlate with the SSRS Externalizing Scale $r = .53, p < .001$, which is a moderate positive correlation. Interestingly, there was also a strong positive correlation between the SSRS-Internalizing scale and the PKBS-Anxiety/Somatic Complaints, $r = .70, p < .001$. Evidence of a strong positive relationship between the SSRS-Externalizing subscale and the PKBS-Self-Centered/Explosive subscale was present ($r = .82, p < .001$). Table 1 illustrates additional appropriate moderate to high inverse relationships between the two scales.

Preschool Comparisons

A comparison of the PKBS and SSRS was completed at the Preschool level, using only the preschool subjects. The Preschool SSRS Social Skills Scale standard score was

very highly correlated with the PKBS Social Skills Scale standards score ($r = .80, p < .001$). This highly positive correlation provided evidence of convergent validity between the standard scores of the two Social Skill subscales. The Problem Behavior Standard scores of the PKBS and the SSRS were also highly correlated ($r = .68, p < .001$). Interestingly, the Preschool level PKBS Problem Behavior Scale ($M = 91.31, SD = 19.68$) was significantly lower than the SSRS Problem Behavior Scale ($M = 98.47, SD = 1.51$), $t(62) = -4.37, p < .001$. The effect strength of this relationship ($\eta^2 = .24$) indicated that the relationship was not only significant, but meaningful. This relationship mirrors that of the total sample results. The Social Skills Scale mean of the SSRS ($M = 99.48, SD = 19.29$) was not significantly different from the PKBS ($M = 98.82, SD = 19.68$), $t(62) = -.42, p > .05$. The effect strength of this relationship ($\eta^2 = .002$) indicated that the difference was not meaningful. The SSRS Social Skills Scale standard score correlated with the PKBS Problem Behavior Scale Standard Score $r = -.71, p < .001$, which indicated a strong inverse relationship between the two scales. The SSRS Problem Behavior Scale standard score correlated with the PKBS Social Skill Scale standard score at $r = -.55, p < .001$, which indicated a moderate inverse relationship between the two scales. These correlations provide evidence of divergent validity among the two scales.

Correlations were computed for the preschool subscales using Pearson product moment correlations. The SSRS Social Skill Total raw score correlated with the PKBS Social Skill raw score $r = .89, p < .001$. This presents evidence of high raw score convergent validity among the subtests. Social skills subscales that were highly

correlated and theoretically measured similar constructs included the PKBS Social Cooperation subscale and both the SSRS Cooperation subscale ($r = .86, p < .001$) and Self-Control subscale ($r = .83, p < .001$). Additionally, the PKBS Social Interaction subscale correlated very highly with the SSRS Assertion subscale $r = .80, p < .001$. The PKBS Social Independence subscale correlated with the SSRS Self-Control subscale $r = .71, p < .001$.

The problem behavior areas also contributed to the evidence of convergent validity. The SSRS Problem Behavior Total was very highly correlated with the PKBS Problem Behavior Total $r = .88, p < .001$. The Externalizing subscale of the SSRS correlated with the PKBS Self/Centered /explosive $r = .80, p < .001$, the Attention/Overactive subscale $r = .84, p < .001$, and the Antisocial/Aggressive subscale $r = .88, p < .001$. The PKBS and SSRS Externalizing Total raw scores were very highly correlated ($r = .85, p < .000$). The Internalizing subscales of the two instruments correlated $r = .84, p < .001$. The SSRS Internalizing Scale correlated with the PKBS Social Withdrawal ($r = .81, p < .001$), and Anxiety/Somatic Complaints ($r = .80, p < .001$). These correlation coefficients provide evidence of convergent validity at both the subscale and global levels. However, there were positive correlations that occurred that were somewhat surprising. As with the Total sample, the preschool sample provided high positive correlations between the Externalizing and Internalizing subscales of the subtests. The SSRS Externalizing subscale moderately correlated with the PKBS Internalizing Scale ($r = .51, p < .001$). The SSRS Internalizing subscale moderately

correlated with the PKBS Externalizing Scale ($r = .53, p < .001$).

Claims of divergent validity were also investigated using the Pearson product moment correlations. The SSRS Social Skills Total negatively correlated with the PKBS Problem Behavior Total $r = -.75, p < .001$, which indicated a high degree of divergent validity among the subtests. Additionally, subscales within the instruments contributed to this high negative relationship. The SSRS Self-Control subscale correlated inversely with the PKBS Self-Centered/Explosive ($r = -.75, p < .001$), Attention/Overactive ($r = -.71, p < .001$) and Antisocial /Aggressive ($r = -.71, p < .001$). Moreover, there was a strong inverse relationship between the SSRS Assertion subscale and the PKBS Withdrawal subscale as ($r = -.69, p < .001$). There was also a strong negative relationship between the SSRS Cooperation subtest and the PKBS Attention/Overactive subscale as ($r = -.74, p < .001$). There was also an inverse relationship between the SSRS externalizing subscale and the PKBS Social Cooperation subtest ($r = -.81, p < .001$) and the SSRS Internalizing subscale and the Social Independence subscale ($r = -.63, p < .001$). These correlation coefficients provide evidence of divergent validity between the PKBS and the SSRS, Preschool Level within the preschool sample.

Elementary Comparison

The Elementary sample was also analyzed separately. Pearson product-moment correlations were computed for the standard scores of the PKBS and the SSRS. The SSRS Social Skill standard score was highly correlated with the PKBS Social Skill standard score ($r = .73, p < .001$). The SSRS Problem Behavior standard score correlated

with the PKBS Problem Behavior standard score $r = .61, p < .001$. These were highly positively correlated, providing evidence of convergent validity at the elementary level. A dependent t -test for the difference in means of standard scores was computed in comparing the SSRS and PKBS. The PKBS Social Skills Scale ($M = 102.68, SD = 17.30$), was not significantly different from the SSRS Social Skills Scale ($M = 104.57, SD = 17.65$) $t(73) = -1.28, p < .206$. However, as in the Preschool and Total samples, there was a significant difference between the PKBS Problem Behavior Scale ($M = 90.11, SD = 15.47$) and the SSRS Problem Behavior Scale ($M = 95.92, SD = 15.53$), $t(73) = -3.67, p < .000$. The effect strength indicated that this difference was meaningful ($\eta^2 = .16$). The inverse relationships between the SSRS and PKBS Social Skills Scale and Problem Behavior Scale were moderate. The SSRS Social Skills standard score was moderately correlated with the PKBS Problem Behavior standard score ($r = -.54, p < .001$) and the SSRS Problem Behavior standard score was moderately correlated with the PKBS Social Skill standard score ($r = -.47, p < .001$). Though these were significant they were moderate inverse relationships. The subscale raw scores were also analyzed with Pearson product moment correlations to determine which subtests were related. The SSRS Social Skills Total Raw Score was very highly correlated with the PKBS Total Raw score ($r = .88, p < .001$). This indicates a strong relationship between the two instruments in the area of social skill raw scores. There were also strong positive relationships between the subscales. The PKBS Social Cooperation subscale correlated with the SSRS Cooperation and Self-Control subscales ($r = .87, p < .001$) and ($r = .81, p$

< .001) respectively. There was also a positive correlation between the SSRS Assertion subscale and the PKBS Social Independence subscale ($r = .63, p < .001$). Finally, there was a positive relationship between the SSRS Self-Control subscale and the PKBS Social Interaction subscale ($r = .71, p < .001$).

There were also positive correlations within the Problem Behavior domains. The SSRS Problem Behavior Total was very highly correlated with the PKBS Total Problem Behavior raw score ($r = .87, p < .001$). Additionally, the Externalizing and Internalizing raw scores of the SSRS correlated with the PKBS Problem Behavior Scale raw score ($r = .80, p < .001$) and ($r = .47, p < .001$) respectively. Interestingly, the PKBS Internalizing Scale raw score was highly correlated with the SSRS Problem Behavior Scale ($r = .69, p < .001$). There were also positive correlations between the SSRS Externalizing Scale and the PKBS Self-Centered/Explosive ($r = .87, p < .001$), Attention/Overactive ($r = .73, p < .001$) and Antisocial/Aggressive subscales ($r = .74, p < .001$). There were also positive correlations between the SSRS Internalizing Scale and the PKBS Social Withdrawal subscale ($r = .67, p < .001$) and Anxiety/Somatic Complaints ($r = .70, p < .001$). Two additional scales are included in the SSRS Elementary Level. The Academic Competence scale was positively correlated with the PKBS social skill scales. Additionally, the Hyperactivity Scale was positively correlated with all PKBS Problem Behavior Scales and the Social Skill Scale of Social Independence.

Divergent validity was supported in the subscale raw score comparisons as well. The PKBS Problem Behavior Total was inversely correlated with the SSRS Social Skills

Total ($r = -.78, p < .001$). The SSRS Self-Control subscale was inversely correlated with the PKBS Self/Centered/Explosive ($r = -.79, p < .001$), Attention/Overactive ($r = -.79, p < .001$) and the Externalizing Scale subscales ($r = -.81, p < .000$). Additionally, the SSRS Cooperation subscale was inversely related to the PKBS Attention/Overactive subscale ($r = -.77, p < .001$). The Hyperactivity subscale was inversely related to the PKBS Self-Control Scale ($r = -.75, p < .001$). There were also negative correlations between all PKBS Problem Behavior subscales and the Academic Competence subscale on the SSRS. These provide additional information to support claims of divergent validity among the instruments.

Chapter IV

Discussion

The comparison of the Preschool and Kindergarten Behavior Scale and the Social Skills Rating Scale, Teacher Form, at the preschool and elementary levels, provided strong evidence of convergent validity. Correlations among the two scales produced coefficients that ranged from .50 to .83. Additionally, there were strong negative correlations between comparisons of theoretically different subscales. This provides a basis for statistical support for the use of the two instruments. The correlation coefficients of the standard scores between the two instruments were .77 for the Social Skills scales and .65 for the Problem Behavior Scales in the Total Sample. These correlations are high and indicate a high degree of convergent validity between the two instruments. Similar coefficients were present with the individual comparisons of the Preschool and Elementary samples, providing support for the validity on the separate forms of the instruments. Some of the comparisons were of particular interest. The Social Skills Rating System, at both levels, consistently rated children significantly higher in the domain of Problem Behavior than the Preschool and Kindergarten Behavior Scales. No past research has reported this inconsistency between the two scales. Interestingly, the Internalizing Scales of the two instruments were significantly, but only moderately correlated. A correlation coefficient of $r = .47$ was produced which indicates that the two scales are correlated, yet not to the degree to which the manuals would

suggest. They both purport to measure the same construct. However, the PKBS has a much larger sample of questions to draw from when determining the level of problem behaviors within the child. The SSRS's ability to accurately identify problem behaviors may be limited due to fewer items. The Externalizing scales of the two instruments were very highly correlated ($r = .81$). This indicated that there is a high degree of shared variance between the two scales in the determination of problem behaviors of an external nature. Typically, these behaviors are more easily detected due to their overt nature. Internalizing problems as defined by the PKBS Manual (Merrell, 1994) are a dimension of problems that include social withdrawal, anxious, inhibited reactions, and the development of somatic problems that appear to be related to inner emotional stress. The behaviors are sometimes described as overcontrolled. Moreover, the SSRS Manual describes Internalizing problems as behaviors that indicates anxiety, depression, sadness, low self-esteem, and loneliness (Gresham & Elliott, 1990). Conversely, Externalizing behaviors are described by Gresham and Elliott (1990) as inappropriate behaviors including verbal or physical aggression toward other, poor control of temper and arguing. Externalizing problems are easier to "see" and to report, often increasing the level of agreement. Merrell (1994) describes externalizing problems as the undercontrolled behaviors such as aggressive, defiant, acting-out disruptive and oppositional behaviors. Again, similar coefficients were found at the Preschool and Kindergarten levels when they were analyzed separately.

Specific subscale comparisons yielded positive results for the validity of many of

the scales within the two instruments. Many of the Social Skill scales theoretically measure similar constructs, which would be expected to correlate at a moderate to high levels. This was true in the Social Skill subscale comparisons of the PKBS Social Cooperation and the SSRS Cooperation Scale as they correlated at .87. These scales are both assessing the levels of compliance within the classroom. The Preschool and Elementary samples yielded correlations of .86 and .87 respectively, indicating strong correlations at all levels. Other strong positive correlations included the SSRS Self-Control and the PKBS Social Interaction subscales, the PKBS Cooperation and the SSRS Self-Control subscales, and the SSRS Assertion and the PKBS Social Independence subscales. These strong positive correlations were also present at the individual age levels. Problem Behavior subscales that were highly correlated included the SSRS Externalizing Scales and the PKBS Self/Centered /Explosive, Attention/Overactive and Antisocial/Aggressive subscales. These would be expected to produce high correlations due to the overt nature of these behaviors. These results were replicated at the separate Preschool and Elementary levels. The SSRS Internalizing subscale also correlated with the PKBS Social Withdrawal and Anxiety/Somatic Complaints subscales. All correlations among these subscales were within the high range.

Conversely, one would expect many inverse relationships among many of the subscales due to the specific and varying nature of the constructs assessed. The SSRS and PKBS produced strong evidence of convergent validity between the two scales as results indicated appropriate negative relationships. The SSRS Problem Behavior Scale was

highly and negatively related to the PKBS Social Skills subscale when using both raw scores and standard score comparisons. This was also true at the subgroup levels. Many of the subscales produced these negative relationships as well. The SSRS Externalizing subscale was inversely related to many of the Social Skill subscales that assessed children's desired behavior. For instance, the Externalizing subscale was highly negatively correlated with the PKBS Social Cooperation subscale, and moderately inversely related to the Social Interaction and Social Independence subscales. There were also low to moderate inverse relationships between the SSRS Internalizing Scale and the PKBS Social Skill Social Cooperation, Social Interaction and Social Independence subscales. Overall, many of the subscales produced results that indicated children with higher degrees of measured social skills were rated to have lower levels of problem behavior. This was true across both instruments and across all age levels assessed. This provides strong evidence of convergent and divergent validity within the two instruments. There appeared to be no differences between correlations as between children rated at the elementary level compared to the preschool level. This suggests that the SSRS is consistent between its forms and both levels of the instruments provide strong agreement of a child's social skills and problem behaviors when compared to the ratings provided by the PKBS.

The PKBS and the SSRS have been compared in previous studies. A study completed by Merrell (1995b) discovered that there was a strong inverse correlation between the SSRS Social Skills Scale and the Internalizing Behavior Scale on the PKBS.

This was the specific focus of the study. The present research replicated Merrell's original findings which found moderate inverse relationships between the two scales. The current study had a limited sample size when compared to Merrell's original research, which could have affected the results. Since the PKBS Internalizing Scale purports to measure a child's symptoms of depression, social withdrawal, inhibited reactions and somatic stressors, it is expected that it would correlate inversely with the Social Skills Standard Score. Children who possess skills that are desirable and appropriate are often children who are free from specific behavioral concerns. The SSRS was also compared to the PKBS to determine overall convergent and divergent validity, as was done in the present research. The study produced similar results on a rather limited sample, with the correlations ranging from .32 to .76 for the Social Skills Scale. Moreover, the Problem Behavior Scale correlations ranged from .27 to .83. The correlations of the current study were similar in producing the significant ratings, yet the current coefficients were not as low as previously found. This adds to the support for continued use of the PKBS and the SSRS.

The current study has several limitations that limit generalizability. Though the total sample size is adequate, the differentiation of ages within the 3-6-age range on the SSRS forced the researcher to use separate forms of the instrument. This then caused the data to be split into two separate groups, producing smaller subgroup samples. Though the merged data is adequate, it would be helpful to collect additional data amongst the two age groups (3:0-4:11 and 5:0-6:11). This would provide more stable information on

any differences that might result between the two forms of the SSRS. Additionally, the sample was limited to one geographical location. Though there was adequate variance within the subjects for race, age and economic status, all subjects were from one midwestern urban area. Additionally, all data were collected within the last two months of the school year. It may have been beneficial to begin the collection earlier in the school year to enhance teacher participation.

Altogether, the current research provides additional data to support the use of the Preschool and Kindergarten Behavior Scales and the Social Skills Rating System, Teacher Form at the Elementary and Preschool Levels. However, because both instruments are relatively new, research should continue to investigate the claims of convergent and divergent validity. Both scales are simple to complete and take little time. Teachers should experience little difficulty in completing the forms, which enable all to gather invaluable information about a child's prosocial skills. The ability of the scales to accurately identify children that are in need of social intervention, is another question that needs to be answered.

References

Bramlett, R.K., Smith, B.L., & Edmonds J. (1994). A comparison of nonreferred, learning disabled, and mildly mentally retarded students utilizing the social skills rating system. Psychology in the Schools, 31, 13-19.

Coie, J., Dodge, K., & Coppotelli, H. (1982) Dimensions and types of social status: A cross age comparison. Developmental Psychology, 18, 557-571.

Elliott, S.N. & Gresham, F.M. (1990). Social Skills Intervention Guide: Practical Strategies for Social Skills Training. Circle Pines, MN:American Guidance Service.

Elliott, S.N., Gresham, F.M., Freeman, T. & McCloskey, G. (1988). Teacher and observer ratings of children's social skills: Validation of the Social Skills Rating System. Journal of Psychoeducational Assessment, 6, 152-161.

Elliott, S.N., Racine, C.N., & Busse, R.T. (1995). Best Practices in Social Skills Training. Best Practices in School Psychology, 85, 1009-1020.

Gresham, F.M. (1990). Best practices in social skills training. In Thomas, A. & Grimes, J. (Eds.), Best Practices in School Psychology II, (pp. 695-709), Washington, D.C.: National Association of School Psychologists.

Gresham, F.M. & Elliott, S.N. (1984). Assessment and classification of children's social skills: A review of methods and issues. School Psychology Review, 13, 292-299.

Gresham, F.M. & Elliott, S.N. (1990). Social Skills Rating System (SSRS). Circle Pines, MN: American Guidance Service.

Kessel, J.B. & Zimmerman, M. (1993). Reporting errors in studies of the diagnostic performance of self-administered questionnaires: Extent of the problem, recommendations for standardized presentation of results, and implications for the peer review process. Psychological Assessment, 5 (4), 395-399.

Lyon, M.A., Albertus, C., Birkinbine, J. & Naibi, J. (1996) A validity study of the Social Skills Rating System-Teacher Version with disabled and nondisabled preschool children. Perceptual and Motor Skills, 83, 307-316.

MacPhee, D. (1996). Review of the Preschool and Kindergarten Behavior Scales. In Impara, J.C. & Conoley, J.C. (Eds.), The Supplement To the Mental Measurements Yearbook, Twelfth Edition, (pp. 276-277), Lincoln, NE: Buros Institute of Mental Measurements.

Maag, J.W., Vasa, S.F., Reid, R. & Torrey, G.K. (1995). Social and behavioral predictors of popular, rejected, and average children. Educational and Psychological Measurement, 55, 196- 205.

McLean, D.L. (1992). Description of the Social Skills Rating System. Journal of Psychoeducational Assessment, 10, 196-205.

Merrell, K.W. (1994). Preschool and Kindergarten Behavior Scales. Brandon, VT: Clinical Psychology Publishing Company.

Merrell, K.W. (1995a). Relationships among early childhood behavior rating scales: Convergent and discriminant construct validity of the Preschool and Kindergarten Behavior Scales. Early Education & Development, 6, 252-264.

Merrell, K.W. (1995b). An investigation of the relationship between social skills and internalizing problems in early childhood: Construct validity of the Preschool and Kindergarten Behavior Scales. Journal of Psychoeducational Assessment, 13, 230-24.

Sabornie, E.J. (1993). Interventions for Achievement and Behavior Problems. "Measuring and Teaching Social Skills in the Mainstream." 161-173.

Stephens, T. (1978). Social Skills in the Classroom. Columbus, Ohio: Cedars Press.

Stinnet, T.A., Oehler-Stinnet, J. & Stout, L.J. (1989). Ability of the Social Skills Rating System -Teacher Version to discriminate behavior disordered, emotionally disturbed, and nonhandicapped students. School Psychology Review, 18, 526-535.

Stuart, D.L., Gresham, F.M. & Elliot, S.N. (1991). Teacher ratings of social skills in popular and rejected males and females. School Psychology Quarterly, 6, (1), 16-26.

Watson, T.S. (1996). Review of the Preschool and Kindergarten Behavior Scales. In Impara, J.C. & Conoley, J.C. (Eds.), The Supplement To the Mental Measurements Yearbook, Twelfth Edition, (pp. 277-281), Lincoln, NE: Buros Institute of Mental Measurements.

Table 1

Correlations between SSRS and PKBS for Subtest and Global Raw Scores for the Total Sample (n=136).

Social Skills Rating System	Preschool and Kindergarten Behavior Scales											
	SC	SIN	SID	SST	SCE	APO	AA	EXT	SW	ASP	INT	PBTOT
Cooperation	.87	.78	.67	.84	-.61	-.74	-.59	-.68	-.64	-.42	-.56	-.70
Assertion	.71	.81	.73	.82	-.54	-.57	-.43	-.55	-.65	-.54	-.63	-.62
Self-Control	.83	.75	.64	.81	-.77	-.73	-.70	-.77	-.70	-.48	-.62	-.78
Social Skills Total	.87	.84	.74	.89	-.70	-.74	-.62	-.73	-.72	-.52	-.66	-.76
Externalizing	-.76	-.53	-.44	-.62	.82	.74	.79	.81	.59	.40	.53	.78
Internalizing	-.31	-.45	-.44	-.43	.48	.31	.27	.39	.70	.70	.74	.55
Problem Behavior Total	-.62	-.55	-.41	-.58	.77	.77	.70	.80	.66	.51	.62	.80

Note: SC=Social Cooperation, SIN = Social Interaction, SID = Social Independence, SST = Social Skills Total, SCE = Self/Centered Explosive, APO = Attention/Overactive, AA= Antisocial/Aggressive, EXTR =Externalizing Problems, SW = Social Withdrawal ASP = Anxiety/Somatic, INT = Internalizing Problems, PBTOT = Problem Behavior Total. All correlations are significant at $p=.001$

Table 2
Correlations between Preschool SSRS and PKBS for Subtest and Global Raw Scores (n=62)

Social Skills Rating System	Preschool and Kindergarten Behavior Scales											
	SC	SIN	SID	SST	SCE	APO	AA	EXT	SW	ASP	INT	PBTOT
Cooperation	.86	.76	.73	.85	-.66	-.74	-.62	-.70	-.66	-.48	-.60	-.71
Assertion	.76	.80	.79	.85	-.60	-.61	-.49	-.60	-.69	-.59	-.67	-.66
Self-Control	.83	.76	.71	.82	-.75	-.71	-.71	-.75	-.70	-.52	-.64	-.76
Social Skills Total	.86	.82	.79	.89	-.71	-.73	-.64	-.73	-.72	-.56	-.67	-.76
Externalizing	-.82	-.62	-.50	-.70	.80	.84	.88	.85	.58	.40	.51	.79
Internalizing	-.43	-.55	-.63	-.57	.58	.42	.42	.53	.81	.80	.84	.67
Problem Behavior Total	-.80	-.70	-.65	-.77	.85	.82	.84	.86	.78	.64	.74	.88

Note: SC = Social Cooperation, SIN = Social Interaction, SID = Social Independence, SST = Social Skills Total, SCE = Self-Centered Explosive, APO = Attention/Overactive, AA = Antisocial/Aggressive, EXT = Externalizing Problems, SW = Social Withdrawal, ASP = Anxiety/Somatic, INT = Internalizing Problems, PBTOT = Problem Behavior Total, All correlations are significant at $p < .001$

Table 3

Correlations between Elementary SSRS and PKBS for Subtest and Global Raw Scores (n=74)

Social Skills Rating System	Preschool and Kindergarten Behavior Scales										
	SC	SIN	SID	SST	SCE	APO	AA	EXT	SW	ASP	PBTOT
Cooperation	.87	.77	.58	.83	-.54	-.77	-.56	-.68	-.61	-.31	-.69
Assertion	.62	.80	.63	.76	-.46	-.56	-.37	-.51	-.59	-.45	-.58
Self-Control	.81	.71	.54	.77	-.79	-.79	-.70	-.81	-.68	-.40	-.82
Social Skills Total	.86	.85	.65	.88	-.67	-.80	-.61	-.75	-.71	-.43	-.78
Externalizing	-.57	-.37	-.26	-.46	.87	.73	.74	.83	.58	.37	.81
Internalizing	-.28	-.45	-.38	-.41	.43	.22	.16	.30	.67	.70	.47
Hyperactivity	-.75	-.60	.38	-.65	.78	.84	.69	.83	.59	.34	.81
Problem Behavior Total	-.70	-.60	-.42	-.65	.87	.79	.69	.84	.74	.54	.88
Academic Competence	.55	.63	.55	.64	-.40	-.55	-.33	-.47	-.48	-.31	-.50

Note: SC = Social Cooperation, SIN = Social Interaction, SID = Social Independence, SST = Social Skills Total, SCE = Self-Centered Explosive, APO = Attention/Overactive, AA = Antisocial/Aggressive, EXT = Externalizing Problems, SW = Social Withdrawal, ASP = Anxiety/Somatic, INT = Internalizing Problems, PBTOT = Problem Behavior Total. All correlations significant at $p < .001$